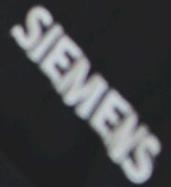


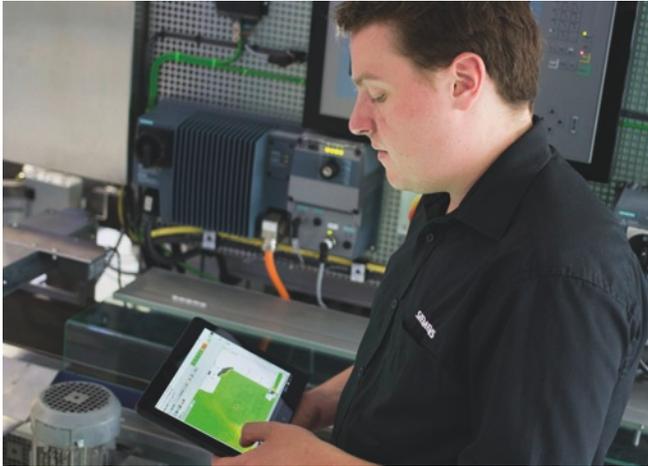
The Siemens logo is displayed in a white rectangular box in the upper left corner of the page. The logo consists of the word "SIEMENS" in a bold, teal, sans-serif font.A close-up of a person's arm wearing a dark blue short-sleeved button-down shirt. The Siemens logo is printed in white on the sleeve of the shirt.A small, solid magenta square icon containing the word "Reference" in white, sans-serif font.A large teal rectangular box containing the title "Network Upgrades in a Single Switch" in white, sans-serif font. The background of the entire page is a photograph of a person's hands using a tablet computer displaying a green and grey architectural or network map.

A first-time project that had to work first time

A large office of a German company in Manchester wants to introduce faster Internet speed with the wireless network. As a result an upgrade was urgently needed. Rather than migrate gradually, the project team wanted the changeover to be as immediate as flicking a switch. This would be the first time that the company had attempted such a rapid upgrade.

In today's business environment, fast Internet access is as essential as oil for powering an engine. If the network is running smoothly, productivity is high; however, if the connection is slow and unreliable, operations can grind to a halt. This was precisely the problem faced by a large Siemens office in Manchester, England. The wireless network in the four-story office building was not designed to support the hundreds of laptops, smartphones, and tablets its employees now used on a daily basis. The coverage was poor, downloads slow, and Siemens' employees had to literally roam the building to find a good connection. With the experience of visitors also impacted, upgrading had become a matter of urgency.

The poor performance of the Manchester network was causing lots of complaints from employees, and was even affecting morale. For this reason, a network is necessary that was fit for a Siemens environment. Traditionally, replacing a wireless network in a multistory office is a slow, gradual process. It can also be expensive and high risk. To add to the challenge, Siemens wanted to switch from the old network to the new one overnight. Siemens had never attempted such a rapid changeover before.



Identifying the requirements for the new network was managed by the Siemens in-house IT team, who conducted a heatmap survey of the entire building using automated Ekahau site planning software.

### Three teams join forces

Implementing such a big project would prove challenging. It would also require three separate teams to pool their expertise for the first time: Global Siemens IT (GS IT), Siemens Real Estate, and Atos, the primary IT provider for the project. Siemens also coordinated the deployment of the Wireless LAN Access Points SCALANCE W786 as well as the cabling system FastConnect.

The first step was identifying the requirements for the new network. This was managed by the Siemens in-house IT team, who conducted a heatmap survey of the entire building using automated Ekahau site planning software. This provided a detailed plan of where to position Access Points, how to set channel allocation, and how to optimize network positioning. Based on this plan, Siemens knew exactly what needed to go where, eliminating any risky guesswork.



The SCALANCE W780 Access Points support data rates of up to 450 Mbps according to IEEE 802.11n standard. Also a use outdoors is possible with SCALANCE W786

### Rugged durability put to the test

The Siemens office handles a huge amount of confidential information via emails, file transfers, and the data on a guest network. It was essential that the new network would provide an impenetrable wall of defense against malicious attacks. The durability of the Access Points SCALANCE W786 in harsh environments was well known. What needed to be tested was its durability when repelling electronic threats. Testing the SCALANCE W786 was handled by Atos. The company independently verified the SCALANCE W786 WLAN's reliability off-site, running hundreds of tests, including a physical 'penetration' test, to ensure every email and data download would be secure from day one. Andy Kelly, Account Director at Atos says, "In our tests, the SCALANCE W786 network lived up to its reputation of being exceptionally rugged industrial technology, both physically and technically. By running diagnostic tests via its web-based management (WBM) interface, we could also see that it would support the Manchester office's hundreds of laptops, smartphones, and tablets with ease thanks to its extremely stable MIMO (Multiple Input Multiple Output) functionality."

### Cost savings of 50 percent

One of the common excuses for delaying a network upgrade is the cost. A large proportion of the cost is due to the cabling, as traditionally all of the power and structure cables have to be ripped out and replaced by a team of electricians. However, Siemens reduced these costs by more than half by deploying dual-purpose Industrial Ethernet FastConnect cables. These could simply be plugged in, with no rewiring required.

The 70 Access Points SCALANCE W786 and Industrial Ethernet FastConnect cables were all installed by GS IT, Siemens' accredited network architects. After installing all the new Access Points and plugging in the Industrial Ethernet FastConnect cables, they conducted another heatmap survey to ensure everything was working and matched the original plans. "Many third parties thought it would be impossible to



With FastConnect cabling technology for quick and error-free installation or changes on site, Siemens has developed a sophisticated quick-assembly system of cables, plug-in connectors and assembly tools.

implement an entire network with Industrial Ethernet FastConnect cables," says David Darlington, Account Manager at GS IT, "However, the technology is proven. We knew that when it was time to switch on the network, every Access Point and device would work as planned."

### Pressing the button

Throughout the project, GS IT, Siemens Real Estate, and Atos met regularly and shared weekly updates.

This close collaboration ensured that every stage was planned and executed like clockwork. Once everything was installed, the entire changeover was activated over a weekend. The old network was completely switched off on a Saturday and the new network launched in its entirety the very next day. Thanks to the professional project management and reliability of the technology, when Siemens' Manchester employees arrived for work on the following Monday, they discovered a network running at vast speeds they had never experienced before. Transfer rates of up to 450 Mbit/s made data downloads lightning fast and the connection was seamless throughout the building's four floors and even in outdoor areas.

### Built for power and performance

What was also noticeable were the Access Points SCALANCE W786. These had been strategically positioned in full view of the office's employees and visitors as a constant reminder of what was powering their rapid Internet connection and driving their productivity.

From the FastConnect cables to the connectors to the Access Points, all of the hardware used was from Siemens. With a five-year warranty, the SCALANCE W786 provides both peace of mind and huge cost savings for any company ready to upgrade. Although as the Manchester office discovered, once installed, Siemens' wireless networks are the epitome of rugged, reliable performance.

[www.siemens.com/iwlan](http://www.siemens.com/iwlan)  
[www.siemens.com/fastconnect](http://www.siemens.com/fastconnect)

### Security information

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions only form one element of such a concept. For more information about industrial security, please visit <http://www.siemens.com/industrialsecurity>

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